



No August Club Meeting

Due to COVID-19 rules on gatherings

Socialize on the airwaves instead



Some of us 'get' social distancing, and some of us just don't!

RD - Remembrance Day Contest August 15 - 16

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AMATEUR RADIO NEWS

The ACMA released a discussion paper proposing four options to finalise access to the 5351.5 to 5366.5 kHz band for VK Amateur Service operators. This is the next step in the process; following inclusion of the ITU agreed Amateur Service allocation in the Australian Radio Spectrum plan since WRC 2015.

The four options take into account the need to manage sharing and interference between the Amateur Service and the incumbent commercial and government spectrum users.

They are:

- 1) Grant nationwide access except for Queensland, where a significant number of commercial licences have been granted
- 2) Grant Nationwide use, but exclude amateur access to the top 1.5kHz of the nominated ITU band
- 3) Implement channelized and geographically restricted access to manage inter-service interference or
- 4) Not permit Amateur Service access to the band in VK.

The WIA submission has supported option 2, noting that the top 1.5kHz of the band has hundreds of commercial land mobile licences allocated across Queensland which require protection from interference. Support for this option was also strengthened by the feedback from over 1000 Amateur Radio operators across Australia who responded to the WIA's survey conducted over recent weeks.

Other evidence supporting Amateur Service access included the successful sharing track record with commercial users on the 30m band, the low power levels being proposed by ACMA in alignment with ITU, and the ability for amateurs to use a variety of communications techniques, including modes that can utilise the inter-channel guard bands in the commercial band plan without impacting non-amateur communications. All of these arguments form, in the opinion of the WIA, a compelling case for access to the band in Australia.

The ACMA will now consider all responses from Amateurs and the industry. If they find the case compelling, amateurs should see a draft revision of the Amateur LCD in due course.

Apple has announced CarKey, a way to wirelessly unlock your car with your iPhone, it could herald the start of an era that sees 3.560 MHz NFC transmitters installed in cars.

NFC has a typical bandwidth of 14 kHz but signal sidebands may extend up to 1.8 MHz either side of 13.560 MHz. The data rates range from 106,000 to 424,000 bps

www.rfwireless-world.com/Articles/NFC-basics.html

International Lighthouse Lightship Weekend

The 23rd ILLW, which usually takes place during the third weekend of August, has been moved to August 22-23rd. There are already over 180 registered Light-house/Lightship stations listed:

www.illw.net/index.php/entrants-list-2020 For more details about this year's event, see: www.illw.net/

Channel 31 stays for another year

Melbourne community television station Channel 31, recently received a licensing extension to continue broadcasting for another year before moving to an online platform. The announcement came on June 29, the stations free-to-air license would be extended for an additional 12 months to allow broadcasting to continue. Channel 31 will be allowed to continue its on-air services, with the expectation that it will fully convert online after the reprieve is up.

DMR Network updates



Here is some news from Peter, VK3TE, in relation to the Australian DMR network.

We have a new updated VK-DMR Network. We added a new Talkgroup (TG 53) on Timeslot 1 (TS 1) to the Network.

This will allow for more users of the VK-DMR Network to chat to each other without getting told to not use TG 3809.

This new TG 53 is an Oceania Talk group, so it will allow more VK and ZL Amateurs to have another Group to chat on.

This will also allow the Hotspot users to have access to this TG as well.

I would like to share with you, we have on the IPSC2 Repeater connection 39+ Repeaters connected to the Network and on the IPSC2 Hotspot connection we have 200+ Hotspot users in VK.

So, we have the largest Radio connected Network in VK Plus we also have the largest VK Club News Broadcast on TG 5 on TS 1

This is open to all VK Clubs to share their Club news to the wider VK Amateurs and to Travellers in your Club area.

VK3CH Amateur Radio Television – Mount View Repeater Tests

Late last year testing was carried out for the new Amateur Radio Television Repeater after the site at Olinda was closed. The new site was at Surrey Hills. The Surrey Hills site is yet to be completed. Another site at Mount View, located at Glen Waverly, has been established.

With the current COVID-19 situation all Television Repeater works were delayed.

With two sites, two sets of antennae for transmitting and reception were needed, or an antenna rotator.

I decided to keep my existing antennas aimed for Surrey Hills and add a new pair for Mount View.

Another 22 meter run of LMR400 coax was done under the house during April.

Good thing I label and document all additions and changes to the radio setup as I have lots of cables now.

There are now 11 lots of coaxial cables running from the shack to antennas outside.



The 445MHz beam underneath points to Surrey Hills, which was proven with all the last tests.

The top pair is the new beams for Mount View.

VSWR on Mt View 23cm TX beam – 1246MHz / 1255MHz / 1278MHz are all 1 : 1.1 so good overall matches.

The beam is right against the chimney but that does not affect its tune, or VSWR.

The aim direct to Mount View 11.2km away, is as per the Google Earth line plot.

A triplex combiner was added to accept the domestic TV as well as the two VK3RTV 445MHz RX beams.

Peter Cossins traced my path to VK3RTV and said *“On the North West antenna you will have about 6dBd and on the North East about 4dBd. You can’t get gain and beamwidth together on an antenna; these have a wide beamwidth and therefore lower gain.”*

WIFI AV ADDITION – THAT WASN'T

One AV cable sends portable camera feed back to the shack.

To be able to send video back 'untethered' to a cable point, a 5.7 GHz WiFi video sender was purchased.

They are small fiddly things so a way of mounting them was required.

The shack one can sit on the bench but the field one needs housing.

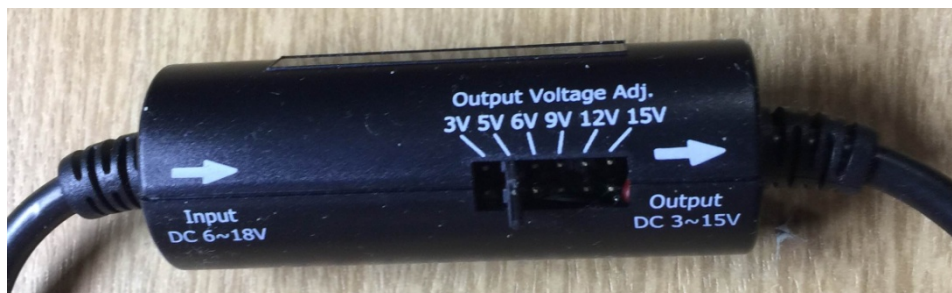
They say a range of 200 meters, but 50 meters around the property will suffice my needs.

I settled on using a spare tripod, to both hold the transmitter, power supply and a camera.

Power can either be from a lead fed from the shack for DC, or a small battery.

They shipped the plug pack 5 volt DC supply with a Japanese plug, why they do this when they know its being shipped to VK I have no idea.

As I have 13.8 volts DC in the shack I used a 5 volt converter from Jaycar, cheaper than making something up.



The AV Sender, very compact unit, but cheap connectors that ruined it



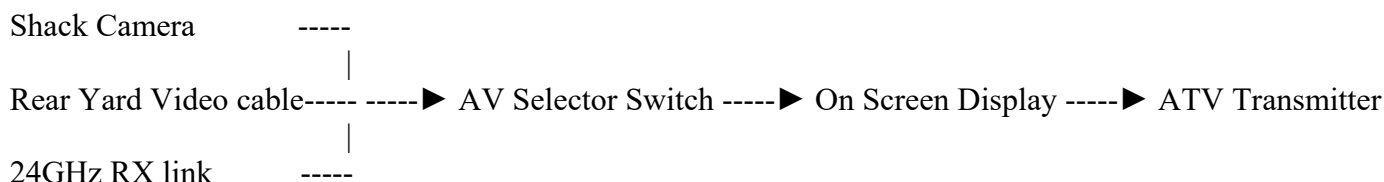
I decided to test them and the connectors are very flimsy, with power cutting in and out. In fact all the plug connections are crap, just not reliable, any movement and things fail. So in the end I junked them – what you pay is what you get...

NEW AV SENDER METHOD

A very good way of getting the camera signals back to the shack was the 24GHz ATV System. Probably overkill, but certainly does the job and all operates from 13.8v DC. The only item to watch is where the TX dish is placed and EMR considerations. My 24GHz dishes are the PROCOM 24 GHz parabolic Antenna 36dBd, 48cm, 2.5 degree angle of radiation. At 300mW, the EMR calculator gives a minimum tower height of 2.54 meters, so it will be placed above that. The RF exclusion zone distance from the dish is 3.18 meters. With a dish gain of 36dBd, for input of 300mW the effective power right in front of the dish is 1270 watts. Analogue TV modulation is an RF form factor of 60%. The 24GHz link will only be used if I need to exceed the cable distance from the rear deck by 10 meters. The 24GHz RX dish is kept in the shack to stay out of the weather.

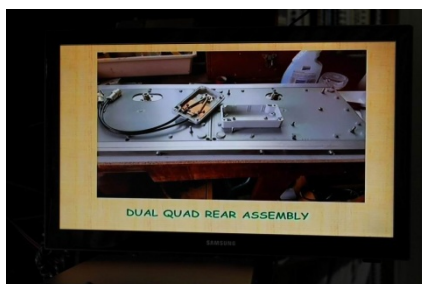
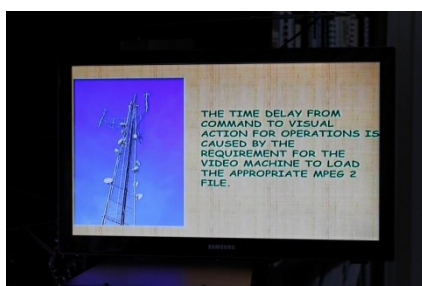
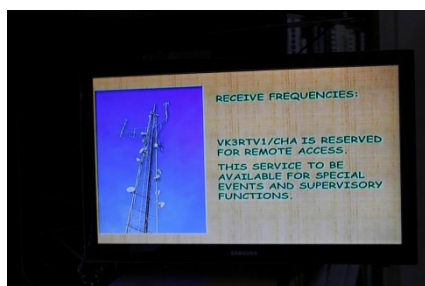
THE ORIGINAL VIDEO SWITCHING

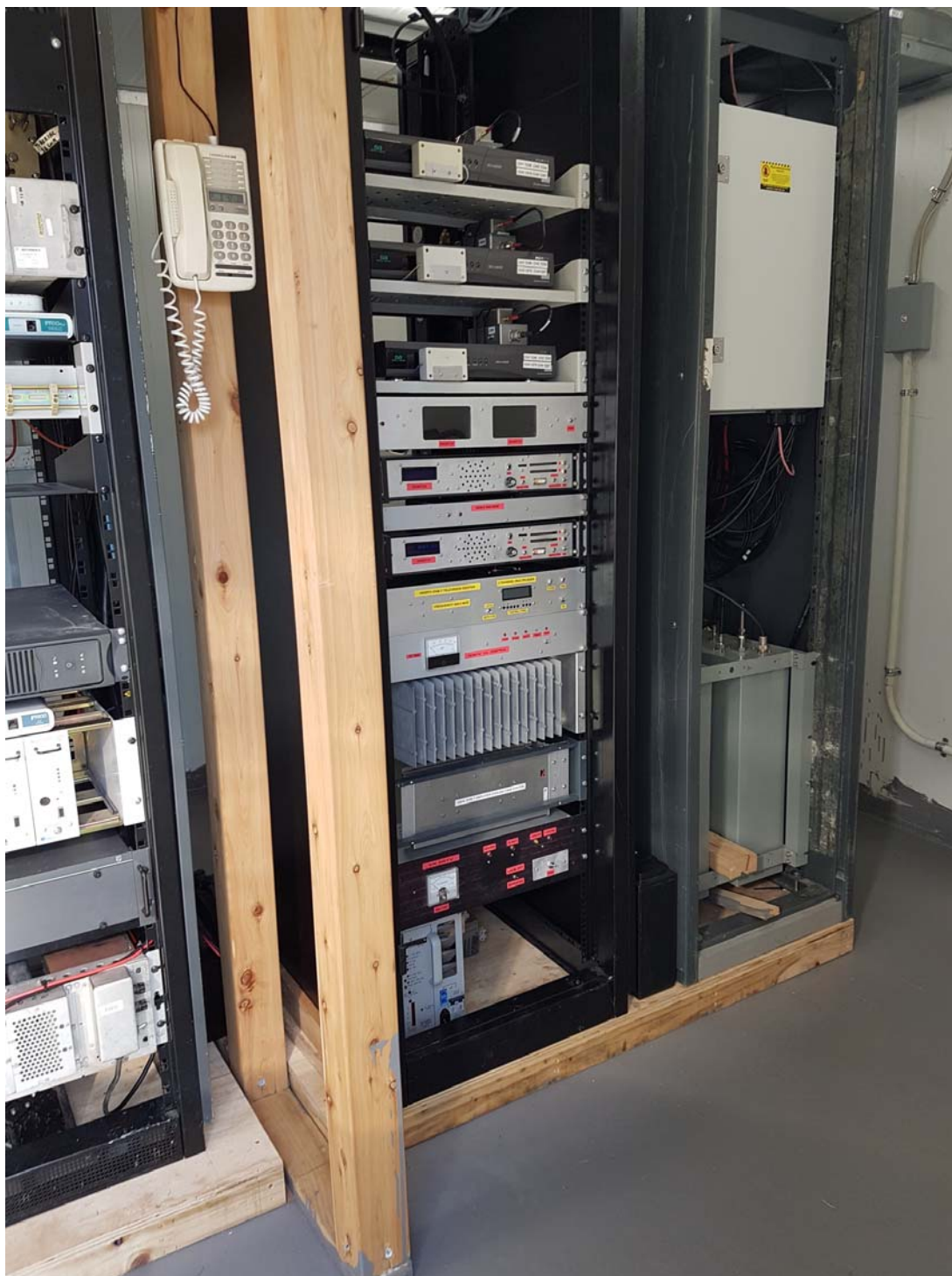
It does not take long for a sea of cables to grow as you add features. Placing labels on all cables helps when tracing faults or adding stuff later on down the track.



VK3RTV TESTS

On 29th June some tests were done at VK3RTV sending only. My received pictures were good, but I am yet to confirm my beam is pointed perfectly at the site. On 30th June another test transmission was done with perfect reception, no need for a preamp. Not bad for two splitters in the TV RX coax along the way. Pictures of the TV with a camera...





VK3RTV Equipment Rack, Mount View Site

Down from the top of the rack are Humax Satellite Receivers with Pre-amps, VK3RTV1 and VK3RTV2 monitors, VK3RTV2 Controller, Video Machine, VK3RTV2 Controller, VK3RTV DVB-T Exciter, PA Controller, 500 watt PA (run @100 watts), Tangential Fan System, Power Supplies and Pen-Ultimate PA Driver. The Satellite Receivers and the Video Machine are controlled by IR LEDS with commands derived from a microcontroller synthesizing a Remote.

Tracks are selected on the Video Machine and also users can access the internal signal report from the receivers by DTMF Command. Other facilities such as 0 dB sound levels can also be selected.

Back in the analogue days, signal reports were video tracks recorded by Peter Cossins daughter.

She would come up after a DTMF command and personally advise users of their signal strength.

As you can see on the photograph, the rack is not yet fired up, but this will happen soon as we were missing some cables to complete the installation.

Later that day Peter sent out an email with the latest repeater settings.
My Symbol Rate was set to 3500ks/sec, but the repeater was changed to a Symbol Rate of 4000ks/sec.
Once I changed that to 4000ks/sec, there I was, picture prefect, back on VK3RTV2 via 1278MHz.

There was a little bit of pixilation on the TV, checking the beam with Google Earth had it sighted correctly.

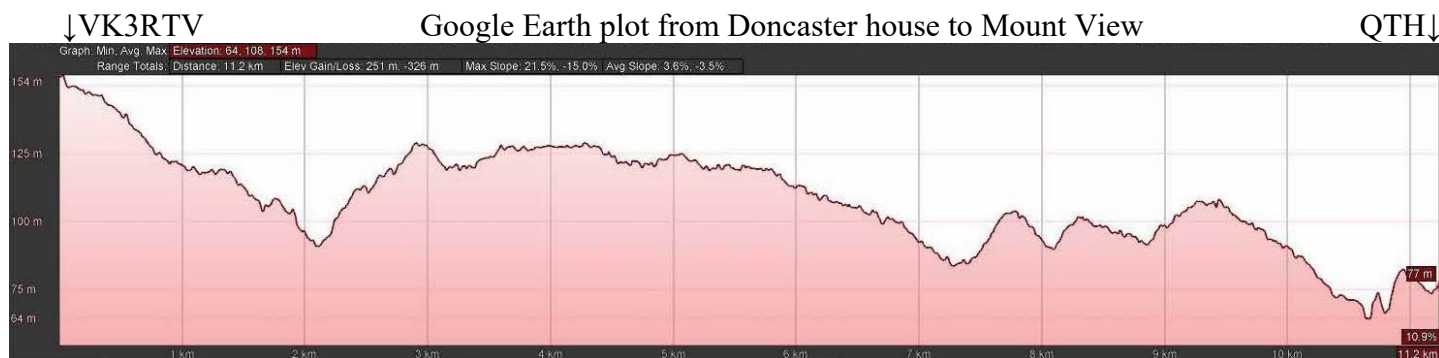
The transmitter is able to hold VK3RTV1 with Level 11, drawing 3.7amps, 7 watts, any less and it drops out.
VK3RTV1 gives a signal report of 29% Signal Level, 44% Signal Quality.
Level 15, full power at 1255MHz draws 4.4amps, 12.5 watts, will be handy in the rain.
The transmitter is able to hold VK3RTV2 with Level 6, drawing 3.0amps, 3.75 watts, any less and it drops out.
Level 15, full power at 1278MHz draws 5.0amps, 16 watts, which is total overkill, but will be handy in the rain.
VK3RTV2 gives a signal report of 69% Signal Level, 78% Signal Quality. So VK3RTV2 favours my QTH.

All antennas are 23cm panels, installed at Mount View.

289M height, 291 Magnetic (1278 MHz In) for the West of Mount View,
190M height, 020 Magnetic (1255 MHz In) for the North East and North West of Mount View and
149M height, 140 Magnetic (1246 MHz In) for operators South of Mount View.

Magnetic declination for Melbourne is +11.73° (12°43')
Declination is POSITIVE, which means it is towards the East.

When I am using 1278MHz, I am going in to the side of the 23cm panel, pointing towards Geelong.
On 1255MHz, I am going in to the far side of the 23cm panel, pointing North East and North West.



VK3RTV location tower add 200+ meters height

QTH add 5 meters mast height

RECEIVE SIGNAL BOOST

Being too lazy to raise the already installed receive beam, I bought a TV masthead 19dB preamp.
So many to choose from, but I picked one that was boosting 445MHz spectrum along with the rest.



The difference in the received picture was improved; makes up for the loss, with the TV coax splitters inline.

RECORDING ATV ACTIVITY

In 2010 I won a HR936T, 500GB Twin HD Tuner Recorder & 3D Blu-Ray Player.

I was asked by the ham donating it to the WANSARC radio club, to take it there, as he had to work that night.

I walked in with it, explained what it was, that it was a donation and to be raffled off that night.

It was quite advanced back then, worth at least \$500

Along with everyone else I bought a raffle ticket.

When the draw was done, not by me thankfully, the winning ticket was mine!

So I walked out with it at the end of the night's WANSARC club meeting.

A few people there called "rigged!!!"

For years it remained inside its box, it finally got taken out days ago and put into service.

Unfortunately it does not allow for direct frequency input to lock in a digital TV station, only scans the preset Australian TV Channels, so I cannot use it to watch and record VK3RTV directly with this unit.

But I can, via a set top box. But set top boxes have their own recording to USB memory as well.

Having both options gives the ability to record both VK3RTV1 and VK3RTV2 at the same time.

Years gone by I just used a camera to photograph the TV to capture amateur radio stations on VK3RTV.

This required diligently watching and waiting and snapping away as stations came up during their turn during the DATV QSO Party. This could go on for hours when the international stations were on.

So the recorded file can be advanced to the selected paused video and a screen grab done for the magazine.

THE TV COAX CABLE SYSTEM

The coax run for ATV is a complex one, in this place anyway...

Three antennas are combined, with RF amplification for Mount View VK3RTV, split to feed;

- The house lounge room TV
- Rear Deck TV (only used during ATV QSO Party)
- Feed to radio shack...

Once at the radio shack room it feeds 4 ways, via, LG Twin HD Recorder, into, Strong Set Top Box, into, Shack TV.

This allows the house to have domestic Television in all places along with VK3RTV.

In the shack the XYL can just power up the main shack TV and watch it without having to switch on a heap of other gear to watch the news.

For VK3RTV reception I can watch either VK3RTV1 and/or VK3RTV2 on the large or small TV.

The LG Twin HD Recorder does not allow programming for 445.500MHz, so the set top box is used to receive VK3RTV when I want to record live streaming activity to the LG Twin HD Recorder.

The set top box can also record to a USB memory stick.

The LG Twin HD Recorder can also play CD or DVD recordings of movies of ham radio events or photos to be put up to VK3RTV, but the computer could also be used.

All these extra options will only be used when the ATV QSO Party is happening.

I appreciate that splits in the coax run bring losses in received signals, but this QTH gets both the commercial TV from Mount Dandenong and VK3RTV from either Surrey Hills or Mount View very well.

ANOTHER HD VIDEO CAMERA – OF SORTS

I have a Cannon EOD60D camera that has a video option, which I have never tried. After using the video option for the first time, it is excellent quality, certainly good enough for ATV. With a fully charged battery 3 hours recording time can be done and the internal 64GB SD card is enough. I remember years ago buying the 64GB SD card, the biggest size I could afford then. Now they cost about \$40 or less, for the cash I spent years ago, you can now get 512GB SD cards with three times the transfer speed rate. So for short ATV sessions, the EOD60D can be used as another HD video source.

This also means a pre-recorded video of the new shack at the new QTH can be prepared for the ATV QSO Party this year. This is a job I have neglected for the last 7 years of the ATV QSO Party, so it is overdue. The challenge will be keeping the video to about 3 minutes duration.

COMPUTER MONITOR PORTING

Sometimes a picture and its sound on a computer monitor are required to put up to ATV. This is easy done with video grabbers or converters. In the old days a VGA Video grabber had limited resolution and often had bad aspect ratio. With HDMI improved resolution is available. It pays to shop around as I found the prices varied a lot. I got the best deals at MSY, not surprising being computer accessories. As I have 4 monitors, I can prepare what it being shown first, before it goes live to ATV, very important. With HDMI conversion to composite video, stereo sound is also converted, so easy, the lot via RCA plugs, sent straight into the AV Control Centre that switches all the cameras.

HDMI conversion output resolution is faintly fuzzy, the price of video processing. But there are traps, not every input accepts the HDMI converter, some inputs have the video scrambled like crazy, others are fine, not sure why this is, but at first I thought it was not going to work. With a split cable I can have a small mini TV to see what is being put up before it is sent to VK3RTV. With TV in line as well as the Control Centre, no loss of video quality, no need for a video distribution unit.

STRONG ‘SRT 5434’ SET TOP BOX

The Strong SRT 5434 Set Top Box has HDMI and RCA outputs. It is an incredibly small size. The remote for it is longer than the box itself. There is a patch on the Strong website to enable programming 445.500 MHz. A USB memory stick can have a file played and processed by the Strong SRT 5434. I bought a 128GB (114GB usable) USB memory stick. Every minute of TV recording uses 44MB. So a 128GB (114GB usable) USB memory stick will capture, for 114GB, about 43 hours of live television. Video files can also be played via the Set Top Box, via HDMI or RCA composite video.

The composite video out is sent into the AV Control Centre ready to be transmitted by the ATV Transmitter. This seems to be the least stressful way to play any video file to ATV without a lot of mucking around. Strong also offer an amateur radio file update to the box, so that the frequency of 445.500MHz can be tuned. The HDMI output also means that one channel of VK3RTV can be sent to a monitor and the normal TV can be used to watch the other channel of VK3RTV in real time if necessary.

AV CONTROL CENTRE – COMPOSITE VIDEO

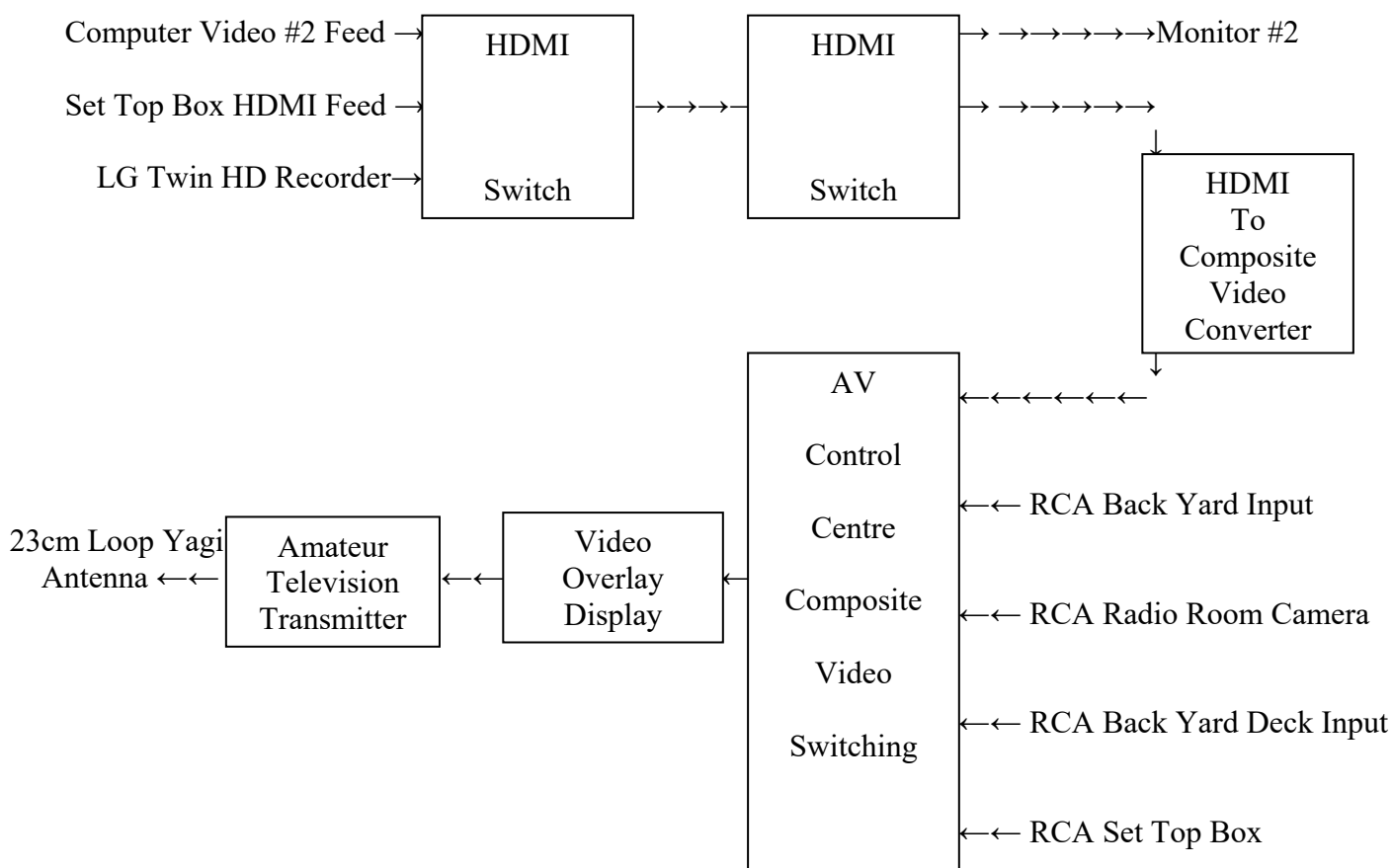
To change video inputs in real time, you need an AV Control Centre, these are cheap now; got mine from Jaycar years ago, labelling all the cables plugged into the rear of the unit is a must, when cable tracing.

Input 1	Input 2	Input 3	Input 4	Input 5	Input 6
HDMI Converted	Set Top Box	Yard	Shack Camera	Deck	

HDMI SWITCHING

In the end, after trying a lot of so called HDMI porting / switching solutions, the old fashioned way of just using an actual switch was best, at least it is detected and functions correctly every time.

Two 4 way switches did the job, now I can prepare what is to be shown to Amateur Television before it is transmitted. Try using a computer mouse and position it on the screen, with the 2 second delay on ATV! Any input can be selected of the computer, monitor output#2, as I have 4 monitors, or the Set Top Box which can be used to play videos from a memory stick, or the LG Twin HD Recorder which can play CD / DVDs. The second 4 way switch takes the selected input and sends it either on the monitor for preview and once it's all ready to go, then it is switched over, via the AV Control Centre, via the on screen display to the Amateur Television Transmitter. This makes it easier to use the mouse to setup anything required before transmission.



The two 4 way HDMI switch boxes, able to see the video on monitor, before switching TX to VK3RTV



The LG Twin HD Recorder, with three remotes, the TV, Set Top Box and the LG HD Recorder
The LG Twin HD Recorder with front flap open showing the CD/DVD door and USB port



The Audio Visual Control Centre, 5 inputs at the rear and one front input ↓



PRE-PREPARED VIDEO

Another task put off for years was making a short video of the station, antenna setup, transmitting equipment both for voice and television.

It is only once you start filming that every unwanted noise becomes apparent such as cars whizzing past, planes above, dogs barking and general wind noise.

It took several takes to get it right only to find it's all too long in duration, so another filming session was done to get it trimmed down to a tight schedule. I made three lots, one on the antennas, one on the outside deck setup and one in the radio room, so they can be played as the ATV QSO Party has a 'round robin' session.

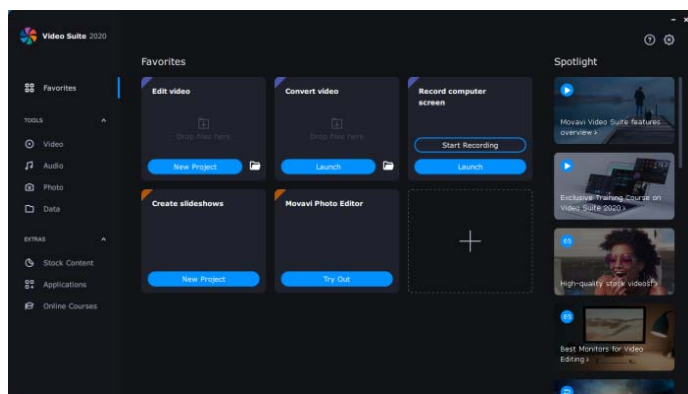
It is suggested that a maximum of 2 minutes per video session during the DATV QSO Party be adhered to. A lot can be said and presented in 2 minutes if planning is done.

I have not done much with video production. An internet search had Video Suite 2020 Video Editor recommended, it cost me money. I use it in basic mode, it does what I need, without any dramas.

Now we are all ready for the International DATV QSO Party, at the end of August.

Just as well, in case stricter travel restrictions happen in Melbourne, with this COVID-19 drama.

~Mick VK3CH



VK3RTV MOUNT VIEW - CONTROLLER - TOUCH TONES UPDATE – From Peter Cossins

The Signal Report is working on 1255 and 1278. The I.R. control is not bullet proof. Normally an error is corrected almost instantaneously by a user. Think how many times you have pressed a Remote button twice. VK3RTV Users are able to use the reset code and may need to send it a number of times to get out of a fault. A good check is to call the signal report and then drop off. You will then be able to see the noise floor, come back and you will see how far you are above the noise floor. Experiment to see how close you can get to the noise floor with lower power, the signal quality is of importance of course.

VK3RTV1 CHB is 1255,
VK3RTV2 CHA is 1246 and
CHB is 1278

*TT3.TT1 Exit Command CHA
*TT3.TT2 Exit Command CHB

Depending where the lock up is, you may have to send the code more than once. I have built two new controllers, separating VK3RTV1 and VK3RTV2.

Each controller has limited dialogue with each other to the extent that one knows if the other is active. There is also an administrative function included in the handshaking.

Control of the Video Machine that generates the callsign and the IR control to get the Digital Signal Report from the receivers have been incorporated into both units.

Analogue and Digital Signal Reports are now available, the Beacon Mode with updated information and receiver test functions.

You can now select tone on either the LH or RH channel and the tone is set to a 0 VU.

You will notice there is audio ID, with video recognition by the callsign graphic and also the station ID information sent automatically to the Set Top Box or receiver.

The current DTMF Codes are:

*TT0.TT1# Colour Bar and LH Tone
*TT0.TT2# Colour Bar and RH Tone
*TT0.TT3# Select Analogue Stereo (Default for analogue is LH Mono)
*TT1.TT0# Beacon Mode (10 Minutes)
*TT1.TT1# Digital Signal Report (VK3RTV1 and VK3RTV2)
*TT1.TT2# SMPTE Colour Bar
*TT1.TT3# Analogue Signal Report
*TT2.TT0# Local Camera
*TT2.TT1# Green Screen
*TT2.TT2# Digital Signal Report (VK3RTV1 and VK3RTV2)
*TT2.TT3# Red Screen
*TT3.TT0# Blue Screen
*TT3.TT1# DVB Receiver Exit Use if IR request stuck!
TT4 User Reset

If the Beacon Mode is running, any input signal will be recognised after a short time.

I have converted the old controller to stereo sound and incorporated the Video Machine and IR controls. This will act as a standby or could be used for a second system.

Phil VK3GMZ has got the BATC Streamer working on VK3RTV1 and VK3RTV2.

Stream VK3RTV1 <https://batc.org.uk/live/vk3rtv1>

Stream VK3RTV2 <https://batc.org.uk/live/vk3rtv2>

The links will only show up if the repeater is active (on air)

~Peter Cossins VK3BFG

8th INTERNATIONAL DATV QSO PARTY 2020

Friday 28th & Saturday 29th August

'Every Pixel tells a story'



The USA contacts are eager to start the International DATV QSO Party that has been in abeyance since 2017, due to the loss of VK3RTV. As the VK3RTV is fully installed from a mechanical point of view, it is intended now to make more firm arrangements.

Friday Aug 28th and Saturday Aug 29th are the dates for the 8th international DATV QSO Party.

Friday night will be VK only with links to NSW and also SA and maybe Qld.

Saturday will be a stroll through the USA ending up in California and then maybe to the UK. I am sure we will have the WR8ATV Columbus Ohio with us, the W0BTv Boulder Nevada and the ATN Californian Network.

Peter Cossins is currently working at home to set up the necessary patches.

For those new to this, all amateurs (well most) will transmit to their local Repeater and there will be a single Anchor to pass each way via the WWW.

Even Peter Cossins who will be the Melbourne Anchor will need to transmit to VK3RTV.

The idea is to maximize amateur radio operations and minimize WWW.

For Amateur Television Stations unable to access the Repeater a portable operation could be considered.

NEVARC Nets



40M Net

Monday, Wednesday and Fridays
10am Local time (East coast)

7.095 MHz LSB

Approximately + or – QRM

7.097 MHz has been used for a while now

Hosted by Ron VK3AHR

“Australia Ham Radio 40 Meter Net”

80M Net

Wednesday 20:30 Local time

3.622 MHz LSB

Hosted by Ron VK3AHR

Using the club call VK3ANE

2M Nets

Monday at 2000 local time on
VK3RWO repeater

146.975 MHz

President, VK2VU, Gary
Vice President, Tom VK3NXT
Secretary, VK2FKLR, Kathleen
Treasurer, Amy



NEVARC CLUB PROFILE

History

The North East Victoria Amateur Radio Club (NEVARC) formed in 2014.

As of the 7th August 2014, Incorporated, Registered Incorporation number A0061589C.

NEVARC is an affiliated club of the Wireless Institute of Australia and The Radio Amateur Society of Australia Inc.

Meetings

Meetings details are on the club website, the Second Sunday of every month, check for latest scheduled details.

Meetings held at the Belvoir Guides Hall, 6 Silva Drive West Wodonga.

Meetings commence with a BBQ (with a donation tin for meat) at 12pm with meeting afterwards.

Members are encouraged to turn up a little earlier for clubroom maintenance.

Call in via VK3RWO, 146.975, 123 Hz tone.

VK3ANE NETS

HF

7.095 MHz Monday, Wednesday, Friday - 10am Local time

currently using 7097 MHz

3.622 MHz Wednesday - 8.30pm Local time

VHF

VK3RWO Repeater 146.975 MHz—Monday - 8pm Local time

All nets are hosted by Ron Hanel VK3AHR using the club callsign VK3ANE

Benefits

To provide the opportunity for Amateur Radio Operators and Short Wave Listeners to enhance their hobby through interaction with other Amateur Radio Operators and Short Wave Listeners. Free technology and related presentations, sponsored construction activities, discounted (and sometimes free) equipment, network of likeminded radio and electronics enthusiasts. Excellent club facilities and environment, ample car parking.

Website: www.nevarc.org.au

Postal:

NEVARC Secretary

PO Box 69

Facebook: www.facebook.com/nevicARC/

Wahgunyah Vic 3683

All editors' comments and other opinions in submitted articles may not always represent the opinions of the committee or the members of NEVARC, but published in spirit, to promote interest and active discussion on club activities and the promotion of Amateur Radio.

Contributions to NEVARC News are always welcome from members.

Email attachments of Word™, Plain Text, Excel™, PDF™ and JPG are all acceptable.

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While we strive to be accurate, no responsibility taken for errors, omissions, or other perceived deficiencies, in respect of information contained in technical or other articles.

Any dates, times and locations given for upcoming events please check with a reliable source closer to the event.

This is particularly true for pre-planned outdoor activities affected by adverse weather etc.

The club website <http://nevarc.org.au> has current information on planned events and scheduled meeting dates.

You can get the WIA News sent to your inbox each week by simply clicking a link and entering your email address found at www.wia.org.au. The links for either text email or MP3 voice files are there as well as Podcasts and Twitter. This WIA service is FREE.